WHAT IS CLAIMED IS:

1. A rotating electrical machine comprising a rotor core, a plurality of rotor slots radially provided at predetermined spaces in a circumferential direction of the rotor core, and a plurality of rotor conductors, respectively, received in the rotor slots, wherein the rotor conductors comprise:

a rotor conductor upper portion, which is positioned near to an outer periphery of a rotor, and a cross sectional shape of which tapers continuously toward the outer periphery of the rotor, and

a rotor conductor lower portion, which is contiguous to the rotor conductor upper portion to be positioned nearer to a center of the rotor than the rotor conductor upper portion, and a cross sectional shape of which is made rectangular to have substantially the same width as that of a bottom of the rotor conductor upper portion.

2. The rotating electrical machine according to claim 1, wherein the rotor conductor upper portion tapers linearly toward the outer periphery of the rotor and has a trapezoidal, cross sectional shape.

3. The rotating electrical machine according to claim 1, wherein brass is used to make the rotor conductors and the rotor conductor upper portion has a height of not less than 27 mm.

4. The rotating electrical machine according to claim 1, wherein brass is used to make the rotor

conductors and the rotor conductor upper portion has a height of 27 to 46 mm.

5. The rotating electrical machine according to claim 1, wherein copper is used to make the rotor conductors and the rotor conductor upper portion has a height of not less than 7 mm.

6. The rotating electrical machine according to claim 1, wherein copper is used to make the rotor conductors and wherein the rotor conductors have a total height of not less than 60 mm and the rotor conductor upper portion has a height of 7 to 44 mm.

7. The rotating electrical machine according to claim 1, wherein copper is used to make the rotor conductors and wherein the rotor conductors have a total height of not less than 30 mm and the rotor conductor upper portion has a height of 7 to 17.5 mm.

8. A rotating electrical machine comprising a rotor core, a plurality of rotor slots radially provided at predetermined spaces in a circumferential direction of the rotor core, and a plurality of rotor conductors, respectively, received in the rotor slots:

wherein the rotor conductors comprise a rotor conductor upper portion made of brass and positioned near to an outer periphery of a rotor, and a rotor conductor lower portion contiguous to a bottom of the rotor conductor upper portion to be positioned nearer to a center of the rotor than the rotor conductor upper portion: and

wherein the rotor conductor upper portion has a cross sectional shape tapering continuously toward the outer periphery of the rotor, and the rotor conductor lower portion has a rectangular cross sectional shape having substantially the same width as that of the bottom of the rotor conductor upper portion.

9. The rotating electrical machine according to claim 8, wherein the rotor conductor upper portion tapers linearly toward the outer periphery of the rotor and has a trapezoidal, cross sectional shape.

10. The rotating electrical machine according to claim 8, wherein the rotor conductor upper portion made of brass has a height of not less than 27 mm.

11. The rotating electrical machine according to claim 8, wherein the rotor conductor upper portion made of brass has a height of 27 to 46 mm.

12. A drive system of a cage induction motor comprising a stator core, a plurality of stator slots radially provided at predetermined spaces and around an inner periphery of the stator core, a stator comprising stator coils received in the stator slots, a rotor core, a plurality of rotor slots radially provided at predetermined spaces in a circumferential direction of the rotor core, a cage induction motor comprising rotor conductors received in the rotor slots, a power supply for supplying three-phase alternating current to the cage induction motor:

wherein the rotor conductors comprising a rotor conductor upper portion, which is positioned near to an outer periphery of a rotor, and a cross sectional shape of which tapers continuously toward the outer periphery of the rotor, and a rotor conductor lower portion, which is contiguous to the rotor conductor upper portion to be positioned nearer to a center of the rotor than the rotor conductor upper portion, and a cross sectional shape of which is made rectangular to have substantially the same width as that of a bottom of the rotor conductor upper portion: and

wherein a switch for applying to the stator coils voltage of a commercial three-phase AC power supply with a commercial frequency remaining intact.

13. The drive system according to claim 12, wherein the rotor conductor upper portion tapers linearly toward the outer periphery of the rotor and has a trapezoidal, cross sectional shape.

14. The drive system according to claim 12, wherein brass is used to make the rotor conductors and the rotor conductor upper portion has a height of not less than 27 mm.

15. The drive system according to claim 12, wherein copper is used to make the rotor conductors and the rotor conductor upper portion has a height of not less than 7 mm.

16. The drive system according to claim 12, wherein the rotor conductor upper portion is made of

brass and the rotor conductor lower portion is made of copper.

17. The drive system according to claim 12, wherein the rotor conductor upper portion made of brass tapers linearly toward the outer periphery of the rotor and has a trapezoidal, cross sectional shape.

18. The drive system according to claim 12, wherein the rotor conductor upper portion made of brass has a height of not less than 27 mm.